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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,205	02/09/2001	Stanislaus Laurens Johan Wouters	4753US	7934

24247 7590 08/10/2004

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EXAMINER	
BELYAVSKYI, MICHAIL A	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/780,205	WOUTERS ET AL.	
	Examiner	Art Unit	
	Michail A Belyavskyi	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,9,10,13-31,35,40 and 42-49* is/are pending in the application.

4a) Of the above claim(s) *23,25 and 26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 9,10, 13-22, 24, 27-31, 35 and 40, 42- 49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RESPONSE TO APPLICANT'S AMENDMENT

1. Applicant's amendment, filed 06/30/04 is acknowledged.

Claims 2, 9, 10,13-31, 35,40 and 42-49 are pending.

Claims 23 and 25-26 stand withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b) as being drawn to a nonelected invention.

Claims 2, 9, 10, 13-22, 24, 27-31, 35 and 40, 42- 49 are under consideration in the instant application.

In view of the amendment, filed 10/22/2003 the following rejections remain

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2, 9, 10, 13-22, 24, 27-31, 35 and 40, 42- 49 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an antibody or fragment thereof and composition comprising said antibody or fragments which binds to an epitope and broken from an epitope under specifically chosen conditions recited in Table 1 that binds to a dye and detects the plaque and suitable for detection of dental plaque or other oral pathogens does not reasonably provide enablement for an antibody or fragment thereof which binds to en epitope and broken from an epitope under broadly recited conditions that is capable of use in any therapeutic or any cosmetic treatment of externally accessible parts of the human or the animal body for the same reasons set forth in the previous Office Action, mailed 01/30/04.

Applicant's arguments, filed 06/30/04 have been fully considered, but have not been found convincing.

Applicant asserts that: (i) since the specification disclosed working examples of antibody which binds to an epitope and broken from an epitope under specifically chosen conditions one of ordinary skill in the art would be able to make and use the claimed antibodies without undue experimentation; (ii) the amended claim 40 now recited a specific pHs and not any broad conditions (iii) rejection in point 4 of the previous Office Action are the same rejection as point 3 of the previous Office Action thus should not be addressed separately.

Contrary to Applicant assertion, the issue raised by the Examiner was that Applicant has not provided sufficient guidance to enable one skill in the art to use an antibody or fragment thereof which binds to en epitope and broken from an epitope under broadly recited conditions other than under specifically chosen conditions recited in Table 1. The amended claim 40 still recited broadly conditions such as binding between about 4-6 or 8-8.5 and broken at 7.0. However, Applicant himself acknowledge that the specification disclosed only 16 specific clones out of the entire phage display library, which includes at the very least, millions of candidate monoclonal antibodies, that possess the required specific characteristics as recited in Table 1, selection A to D. For example, the selection C, requires that antibody binds to epitope at specific pH of 8.5 and 1M NaCl and is broken at pH of 7.0. In other word out of millions monoclonal antibody only 16 monoclonal antibody were capable to bind to epitope and be broken from epitope at very specific set of conditions for example at condition C antibody binds to epitope at specific pH of 8.5 and 1M NaCl and broken from epitope at pH of 7.0. Clearly said conditions are differ from very broadly recited conditions in claim 40 i.e. binding between about 4-6 or 8-8.5. It is the Examiner position that the specification lack of sufficient guidance and predictability in determining on how to make and use an antibody or fragments thereof that able to bind to and broken from an epitope under any broadly recited conditions, the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. In addition, Simonson et al., (US Patent 4,138,476) teach that the ability of antibody-enzymes complex to be retain in the oral cavity depends on pH and in oral fluids is vary from 5.4 to 7.8 and can be diminished by the tendency for the pH of the oral fluid to rise to the 6.2 to 7.4 range. (see entire document, column 1, lines 55-67 and column 2, lines 5-10 in particular). In addition, Weir ed. (Immunochemistry, Volume 1, 1986, p38.1-38.15 Blackwell Scientific Publication, Oxford) teaches that ability of antibody and fragment thereof to bind to and eluted from an epitope is unpredictable and varies depending on pH and ion strength (see pages 38.5-38.6 in particular).

With regards to the issue raised in section 4 of the previous Office Action, mailed on 01/30/04. Contrary to Applicant assertion, said rejection was not the same as rejection in section 3 of the Office Action, mailed on 01/30/04.

The issue raised in section 4 of the previous Office Action, mailed on 01/30/04 was about benefits of the antibody or fragments thereof that are capable of binding to and broken from an epitope under specifically chosen condition would be other than being suitable for targeting and local administration of active substances for therapeutic treatment of infections in the oral cavity. As was stated in the previous Office Action, Applicant himself acknowledge that the ability of an antibodies to be broken from an epitope at any desired moment can be of benefit only for removing the dye which are used for the detection of dental plaque or other oral pathogens, without lips, tongue and gums remained coloured for a long time (Page 2, lines 19-34 of the specification as filed). The specification as filed does not adequately teach what other benefits of the antibody or

fragments thereof that are capable of binding to therapeutically or cosmetically or diagnostically active substance and able to bind to and broken from an epitope u under specifically chosen condition would be.
Moreover, Simonson et al., (US Patent 4,138,476) teach that the longer the antibody-enzyme complex bound to en epitope the better the therapeutic outcome would be (see Abstract in particular). Thus, Applicant has not provided sufficient guidance to enable one skill in the art to use an antibody or fragment thereof which binds to en epitope and broken from an epitope under broadly recited conditions that is capable of use in any therapeutic or any cosmetic treatment of externally accessible parts of the human or the animal body other than antibody or fragment thereof and composition comprising said antibody or fragments which binds to an epitope and broken from an epitope under specifically chosen conditions recited in Table 1 that binds to a dye and detects the plaque and suitable for detection of dental plaque or other oral pathogens.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 9, 10, 13-22, 28, 30-31, 35, 40, and 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beggs et al., (US Patent NO: 5,490,988) in view of Goding (Monoclonal Antibodies; Principles and Practice, 1983, Academic. Press, New York. see entire book, particularly pages 44-45) for the same reasons set forth in the previous Office Action, mailed 01/30/04.

Applicant's arguments, filed 06/30/04 have been fully considered, but have not been found convincing.

Applicant asserts that : (i) neither Beggs et al., nor Goding teach or suggest an antibody that binds to an epitope at the first pH of between 6 and 8 and wherein the bound is broken at a second pH of 7; (ii) Beggs et al does not even mention the disassociation of the antibody from the epitope at pH of about 7; (iii) claims 2,9,10,13-22,24, 27-30 35, 43

and 44 are nonobvious as depending from nonobvious independednt claim 40; (iv) Goding established that polyclonal antibodies are typically stable in the range of pH between 4 and 9 and does not teach or suggest breaking a bound between an antibody and epitope at pH of about 4-6; (v) there is no suggestion or motivation to combine the cited references

Applicants have traversed the primary and the secondary references pointing to the differences between the claims and the disclosure in each reference. Applicant is respectfully reminded that the rejection is under 35 USC103 and that unobviousness cannot be established by attacking the references individually when the rejection is based on the combination of the references. see In re Keller, 642 F.2d 4B, 208 USPQ 871, 882 (CCPA 1981) See MPEP 2145. This applicant has not done, but rather argues the references individually and not their combination. One cannot show non-obviousness by attacking references individually where the rejections are based on a combination of references. In re Young 403 F.2d 759, 150 USPQ 725 (CCPA 1968).

In response to applicant's arguments that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine 5 USPQ2d 1596 (Fed. Cir 1988) and In re Jones 21 USPQ2d 1941 (Fed. Cir. 1992). In this case Beggs et al, teach an antibody and antibody fragment, comprising F (ab) or Fv fragments that are able to bind to a target site through antibody –antigen binding at conditions lie within physiologically acceptable limits (see entire document , column 1, lines 39-41 and column 2, lines 18-20 in particular). pH of between 6 and 8 would be considered by one of ordinary skill in the art to lie within physiological limits. Beggs et al., further teach that antibody or antibody fragment is capable of use in a target or temporally diagnostic of externally accessible parts of a human body, particularly bind to an antigenic component of dental plaque under physiologically acceptable limits (see column 4, lines 16-30 in particular). Beggs et al., also teach that the antibody or fragment thereof binds therapeutic active agent, wherein therapeutic agent comprises an enzyme (see column 5, lines 19-42. in particular). The antibody fragment is a fragment of an antibody to *Streptococcus. mutans* and the therapeutic agent is glucose oxidase (column 4, lines 22-27 in particularly). Begges et al., also teach that the antibody or fragment thereof will be used to detect plaque in oral cavity or capable of bleaching teeth (column 4, lines 25-60 in particular). Beggs et al., also teach that antibody and the therapeutic agents are incorporated in one or more pharmaceutically acceptable dilutent or carrier (column 5, lines 44-46 in particular). Beggs et al., also teach composition useful as a teeth cleaning agent, mouthwash, toothpaste comprising antibody or fragment thereof (column 5, lines 65-67 and column 6, lines 1-6 in particular).

Goding teaches that during optimization of each purification protocol for each antibody of interest and a fragment thereof, the parameters such as pH and ionic strength play an

essential role and that it is an inherent properties of all antibody and fragment to bind to an epitope under one set of specifically chosen conditions and be eluted from an epitope (bound of antibody to an epitope is broken) under specifically chosen different conditions. (pages 44-45 in particularly).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine all operable and optimal rangers of pH and ion strength at which antibody or fragment thereof binds to and eluted from an epitope, as taught by Goding and use it for antibody or fragment thereof taught by Beggs et al. Thus, contrary to Applicant' s assertion it is the Examiner position that independent claim 40 and dependent claims 2, 9, 10, 13-22,24, 27-30 35, 43 and 44 are obvious over the prior art of Beggs et al., and Goding. Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F2d 454,456,105 USPQ 233; 235 (CCPA 1955). see MPEP § 2144.05 part II A. The strongest rationale for combining reference is a recognition, expressly or implicitly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent that some advantage or expected beneficial result would have been produced by their combination In re Sernaker 17 USPQ 1, 5-6 (Fed. Cir. 1983) see MPEP 2144.

5. Claims 2, 9, 10, 13-21, 24, 27, 28, 30, 31, 35, 40 and 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cummins et al.,(EP 0736544) in view of Goding (Monoclonal Antibodies; Principles and Practice, 1983, Academic. Press, New York. see entire book, particularly pages 44-45 for the same reasons set forth in the previous Office Action, mailed 01/30/04.

Applicant's arguments, filed 06/30/04 have been fully considered, but have not been found convincing.

Applicant asserts that : (i) neither Cummins et al., or Cummins et al teach or suggest that the bound between the selected monoclonal antibody or fragment thereof and the epitope is broken at pH of about 7; (ii) claims 2,9,10, 13-22,24, 27-30 35, 43 and 44 are nonobvious as depending from nonobvious independednt claim 40; (iii) Goding established that polyclonal antibodies are typically stable in the range of pH between 4 and 9 and does not teach or suggest breaking a bound between an antibody and epitope at pH of about 4-6; (iv) there is no suggestion or motivation to combine the cited references

Applicants have traversed the primary and the secondary references pointing to the differences between the claims and the disclosure in each reference. Applicant is respectfully reminded that the rejection is under 35 USC103 and that unobviousness cannot be established by attacking the references individually when the rejection is based on the combination of the references. see In re Keller, 642 F.2d 4B, 208 USPQ 871, 882

(CCPA 1981) See MPEP 2145. This applicant has not done, but rather argues the references individually and not their combination. One cannot show non-obviousness by attacking references individually where the rejections are based on a combination of references. In re Young 403 F.2d 759, 150 USPQ 725 (CCPA 1968).

In response to applicant's arguments that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine 5 USPQ2d 1596 (Fed. Cir 1988) and In re Jones 21 USPQ2d 1941 (Fed. Cir. 1992). In this case , Cummins et al. teach an monoclonal antibody and fragment thereof to salivary peliicle, which are capable of recognizing cryptitopes . These antibody and fragment thereof are particularly suitable to treat oral cavity (see entire document, Abstract in particular). Cummins et al. teach various binding conditions that lie within physiologically acceptable limits, including pH and ion strength (page 4, lines 38-40 in particular). pH of between 6 and 8 would be considered by one of ordinary skill in the art to lie within physiological limits. Cummins et al. also teach that antibody and fragment thereof binds diagnostically, therapeutically or cosmetically active substance (see Abstract and pages 3-4 in particular) and can be visualized by using fluorescent labeled antibodies (page 11 in particular). Cummins et al., teach a composition comprising at least one antibody and physiologically acceptable dilutent that is useful as a cleaning agent (see Example 5 in particular) Cummins et al., teach that diagnostically, therapeutically or cosmetically active substance comprises enzyme such as a proteases, including papain, pepsin, trypsin, ficin and bromelin (page 3, lines 35-55 in particular). Cummins et al. teach the antibody or fragment thereof is capable of binding an epitope of a pathogenic micro-organism (page 3, lines 1-5 in particular) and can be used for teeth bleaching (page 3, lines 3-5 in particular).

Goding teaches that during optimization of each purification protocol for each antibody of interest and a fragment thereof, the parameters such as pH and ionic strength play an essential role and that it is an inherent properties of all antibody and fragment to bind to an epitope under one set of specifically chosen conditions and be eluted from an epitope (bound of antibody to an epitope is broken) under specifically chosen different conditions. (pages 44-45 in particularly).
It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine all operable and optimal rangers of pH and ion strength at which antibody or fragment thereof binds to and eluted from an epitope, as taught by Goding and use it for antibody or fragment thereof taught by , Cummins et al. Thus, contrary to Applicant' s assertion it is the Examiner position that independent claim 40 and dependent claims 2,9,10, 13-22, 24, 27-30 35, 43 and 44 are obvious over the prior art of Cummins et al. and Goding. Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F2d 454,456,105 USPQ 233; 235 (CCPA 1955). see MPEP § 2144.05 part II A. The strongest rationale for combining

reference is a recognition, expressly or implicitly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent that some advantage or expected beneficial result would have been produced by their combination In re Sernaker 17 USPQ 1, 5-6 (Fed. Cir. 1983) see MPEP 2144

6. Claim 29 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Beggs et al., (US Patent NO: 5,490,988) in view of Goding (Monoclonal Antibodies; Principles and Practice, 1983, Academic. Press, New York. see entire book, particularly pages 44-45) as applied to claims 2, 9, 10, 13-22, 28, 30-31, 35, 40, and 42-49 as above, and further in view of Cole et al., (Immunol. &Infect. Diseases 1993, 3, 33-35) for the same reasons set forth in the previous Office Action, mailed 01/30/04.

Applicant's arguments, filed 06/30/04 have been fully considered, but have not been found convincing.

Applicant asserts that claim 29 is non-obvious at the very least as indirectly depending from non-obvious independent claim 40.

Contrary to Applicant's assertion , as has been discussed , supra it is the Examiner position that independent Claim 40 is unpatentable over Beggs et al ., in view of Goding.

The teachings of Beggs et al., and Goding have been discussed, supra.

The claimed invention differs from the reference teaching only by the recitation of an antibody capable of binding *Porphyromonas gingivalis.*

Cole et al., teach an antibody to *Porphyromonas gingivalis* (see entire document, Abstract in particular) . Cole et al., further teach that this antibody play essential role in the immunopathology of periodontal disease.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Cole et al., and those of Beggs et al., and substitute antibody capable of binding to one pathogenic micro-organism associated with periodontal disease with antibody capable of binding with another pathogenic micro-organism associated with periodontal disease.

One of ordinary skill in the art at the time the invention was made would have been motivated do so, because antibody to *Porphyromonas gingivalis* are essential in the immunopathology of periodontal disease and could be used to delivery of the therapeutic agents to the target site as taught by Beggs et al.

From the combined teaching of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

7. Claim 43 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Beggs et al., (US Patent NO: 5,490,988) in view of Goding (Monoclonal Antibodies; Principles and Practice, 1983, Academic. Press, New York. see entire book, particularly pages 44-45) as applied to claims 2, 9,10, 13-22, 28, 30-31, 35, 40, and 42-49 as above, and further in view of Fischer (US Patent 5,571,511) for the same reasons set forth in the previous Office Action, mailed 01/30/04.

It is noted that since the applicant has failed to respond to said rejection of record, it appears that applicant has acquiesce to the rejection of record.

The teachings of Beggs et al., and Goding have been discussed, supra.

The claimed invention differs from the reference teaching only by the recitation of an antibody capable of binding *Staphylovovvus epidermidis.*

US Patent '511 teach an antibody to *Staphylococcus epidermidis* (see entire document, Abstract in particular) . US Patent '511 further teach that this antibody play essential role in the new therapy for treatment of Staphylococcus infection (see column 4, lines 31-35 in particular

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of US Patent '511 and those of Beggs et al., and substitute antibody capable of binding to one pathogenic micro-organism associated with periodontal disease with antibody capable of binding with another pathogenic micro-organism associated with periodontal disease.

One of ordinary skill in the art at the time the invention was made would have been motivated do so, because antibody to *Staphylococcus epidermidis* play essential role in the new therapy for treatment of Staphylococcus infection and could be used to delivery of the therapeutic agents to the target site as taught by Beggs et al.

From the combined teaching of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

8. No claim is allowed.

9. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michail Belyavskyi whose telephone number is 571/ 272-0840 The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571/ 272-0841 .

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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August 9, 2004

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